

# Middlesex Town Forest Management Plan



Prepared by the Middlesex Town Forest Planning Committee  
A subcommittee of the Conservation Commission  
March 18, 2010

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**For additional information, visit:**  
**<http://sites.google.com/site/middlesextownforest/>**  
**or find the link on the Middlesex Town website**  
**Email: [middlesextownforest@gmail.com](mailto:middlesextownforest@gmail.com)**

## Appreciation

Countless individuals worked tirelessly to protect property in Middlesex for use and enjoyment by the entire community. Special thanks are owed to Eleanor Ott and Cynthia Steed, who shared a vision for conserving their property as a Town Forest, and Vermont Land Trust, who made its conservation possible. Many thanks go to the various project funders, including Vermont Housing and Conservation Board, Vermont River Conservancy, Middlesex Conservation Fund, and more than 100 private donors. Middlesex residents have contributed tremendous time, energy, and skills to help steward the Town Forest, including Mike Patterson, for marking the property boundaries, Ruth Pope, for her wonderful painting, and many committee members, especially Dave Shepard, Conservation Commission Chair; Bill Rossmassler, Rick Paradis, Chip Darmstadt, Lydia Menendez, Tod Olson, Steve Juiffre, Eric Seidel, and many others - thank you all. Thank you Russ Barrett, Washington County Forester, for your forest assistance. Thanks to all the Middlesex Selectboard members who have helped see this process come to fruition, and who will continue to oversee its long term success. And, finally, many thanks to all the Middlesex residents who have shared their vision for the forest.



Wildflower Walk & Celebration, May 2009



Public Forum, October 2009

## Terms

Individual use = Personal, non-commercial use of forest or forest products.

Property = Middlesex Town Forest

Plan = Middlesex Town Forest Management Plan (this document)

Stream = A channel that periodically or continuously contains moving water, has a defined bed, and has banks that serve to confine water at low to moderate flows. Streams include intermittent streams that have a defined channel and evidence of sediment transport, even if such streams does not have surface water flow throughout the year and/or throughout the channel.

Town = Town of Middlesex and the appropriate governing body: Selectboard, Conservation Commission, or Town Forest Stewardship Committee

Forest Stewardship Plan = plan revised and approved by Washington County Forester to oversee silvicultural treatments on Town Forest Property

# 1. Background

## *1.1. The Management Plan Writing Process*

As of January 2009, the Town of Middlesex owns the Middlesex Town Forest property and is responsible for its long-term management. Vermont Land Trust (VLT) and Vermont Housing and Conservation Board (VHCB) hold the Conservation Easement, which permanently protects the natural resources on the Property and removes all development rights from the Property (Appendix 7.3). Vermont Land Trust and Vermont Housing and Conservation Board require an approved Management Plan for the Property. The Middlesex Town Forest Planning Committee, a sub-committee of the Middlesex Conservation Commission, was created to solicit input from Middlesex residents and draft a Management Plan for approval by the Town.

To learn about the lay of the land and the public desires for the Property, a series of outdoor investigations and public input meetings were held. Events were advertised via the Middlesex Monthly, Rumney School Notes, fliers posted around town, postcards sent to all residents, email reminders and a Middlesex Town Forest website. Three public events were held in the Town Forest on May 17 (over 30 participants), September 12 (11 participants) and October 10, 2009 (6 participants) to assess the property and gather information to help write the Management Plan. A Public Forum was held in the Middlesex Town Hall on October 26, 2009 (over 30 participants) to engage the public in the Management Plan writing process. Information about the Town Forest was shared, and people's visions and ideas for the Town Forest were solicited. Three Public Input meetings were held on November 17 (10 participants), December 15, 2009 (8 participants) and January 27, 2010 (17 participants) to discuss Wildlife Habitat and Protection of Natural Resources, Forestry Management and Economic Uses, and Recreational and Educational Uses, respectively. Collectively, all comments shared during the public input process informed the writing of this Plan.

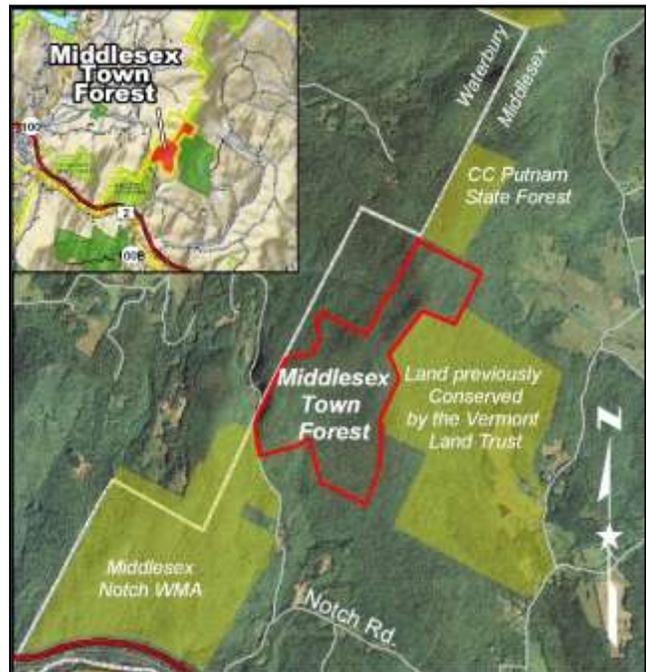
The Plan describes management strategies for natural resource protection, sustainable forestry, community recreation and education. The Plan is intended to increase the continuity of management over time by providing the Town with background information and a consistent policy framework. The Plan is a living document that can be revised periodically as new information is gathered, as forest conditions change, and as management strategies improve. Upon adoption of this Plan, all future management issues will be decided or delegated by the Middlesex Selectboard. To help the Selectboard fulfill their responsibilities, the Selectboard and the Conservation Commission will create a Town Forest Stewardship Committee (TFSC) that will act as a subcommittee of the Conservation Commission. The TFSC will be responsible for the day-to-day management of the Town Forest. See Section 6 for TFSC description.

## 1.2. Objectives of the Management Plan

This Management Plan is a guiding document to help Middlesex, VT steward its Town Forest for perpetuity. The Town of Middlesex recognizes that forests are an essential component of Vermont's healthy ecosystems and healthy communities. The Town Forest will be managed in a manner that promotes the health of both, and that encourages all members of our community to learn about, enjoy, and gather in our Town Forest. ***This Plan's primary objective is to balance human uses of the Town Forest with protection of its natural resources, according to the legal requirements of the Property's Conservation Easement and the desires of all Town residents.***

## 1.3. Property History & General Description

The Middlesex Town Forest is 403 acres and ranges from approximately 1,050 to 2,250 feet in elevation. The Property is situated on the east side of Notch Road, a Class IV road that abuts the Town Forest. Because of the Property's proximity to other public and private conserved land parcels, including the State of Vermont's Middlesex Notch Wildlife Management Area and the Putnam State Forest, the Middlesex Town Forest is of important conservation value. The Town Forest increases habitat connectivity between the Interstate 89 corridor and Mt. Elmore. The Worcester Range is important forest land for wildlife habitat and natural resource conservation, recreational use, and scenic beauty.



The Property has been privately owned as farm and forest land since Middlesex was settled. The residents of Middlesex and surrounding towns have traditionally used the Property for winter and summer recreation with permission from previous owners or their agents. The Property was offered to Vermont Land Trust (VLT) for permanent conservation, and with the help of both public and private donations, was acquired and subsequently conveyed to the Town of Middlesex in January 2009.

Two adjacent parcels (# 04-01-05, 11 acres on NW side and # 09-03-18, 21 acres on SE side adjoining Cherubini & Rock properties) are owned by the Town and will be considered part of the Middlesex Town Forest for management purposes, but are not included in the Conservation Easement. Access to the Property is currently provided by Notch Road. The most accessible timber access is through the Town's gravel pit across an adjoining parcel of private land, but access is also possible from Notch Road.

## **2. Natural Resources and Wildlife**

The Middlesex Town Forest Conservation Easement requires a management plan that protects biological diversity, native flora and fauna, wildlife habitat and scenic resources of the Property. This section of the Plan puts forth recommendations and strategies for achieving these requirements, while balancing other uses and goals of the Town Forest.

### ***2.1. Natural Resources***

The Middlesex Town Forest encompasses important natural resources, including a wide diversity of natural communities, headwaters, streams, wildlife habitat, soils and possibly rare and irreplaceable natural areas. A general description of these broad categories follows with recommendations about their management. A limited inventory and assessment of important natural resources on the Property has been conducted, and there is a need for further assessment.

#### **2.1.1. Geology and Soils**

The Middlesex Town Forest is evidence of ancient mountain building and subsequent glacial scraping and melting. Over billions of years, periods of deep-ocean sediment deposition and continent-colliding, mountain forming events created what we now know as the Green Mountains. The Town Forest bedrock is part of the Stowe Formation, which occurred during the Cambrian and Late Proterozoic periods (~1,000 to 488 million years ago), and consists of green to grey quartz-sericite-chlorite phyllite and schist, black graphitic phyllite, abundant quartz veins, and, common at Chases Mountain, thin (1-10m) interlayered greenstone (Vermont Geologic Survey Bedrock Map). More recent glacial history shaped Vermont's ridgelines and valleys. Much of the rocks and soils that cover the Town Forest were moved into their current position around fourteen thousand years ago by glacial meltwater. The Town's gravel pit, situated to the southwest of the Property, indicates where sediments were deposited by the powerful meltwater flows meeting the still waters of Glacial Lake Winooski. Ancient bedrock is still exposed in areas. Landscape wide deforestation in the 1800s caused soil erosion, increasing the slopes of the drainages and deepening sediment deposition in flatter areas. Since then, the Property has been used for farming and grazing, and more recently allowed to regrow as forest.

#### **Recommendations:**

- a) Further assess and map surficial soil types to aid in future trail planning and forestry management.

#### **2.1.2. Natural Communities**

The Middlesex Town Forest is full of diversity and change. Steep slopes, navigable ridgelines, stream-fed valleys and other topographic challenges predominate. The plant cover, varied and at times lush, is a product of the resident topography influenced by bedrock, soils, climate and human activities past and present. A useful way to understand this diverse landscape tapestry is to recognize the distinct natural communities found there. Natural communities can be described as assemblages of living organism (plants and animals) embedded within a physical environment

and influenced by assorted natural processes such as storms, fire, and succession. Identifying the natural communities present in the Town Forest and recording their location and distribution can help us make some sense of the complexities of the natural world. It can also provide us with a common language when embarking on land use planning, stewardship and conservation activities.

The ubiquitous forest cover of the Property consists of several natural community types. On the lower reaches, **Mesic Red Oak-Northern Hardwood Forest** dominates the scene with many red oaks and other hardwoods, such as sugar maple and yellow birch, reaching considerable stature. Moister sites with deeper soils exhibit **Rich Northern Hardwood Forest** with its emblematic high diversity of understory herbs, including wild ginger and maidenhair fern. Higher upslope, **Northern Hardwood Forest** is encountered, a classic but variable community type found throughout the Green Mountains. Perched along the crest of Chases Mountain, the highest point of the Property at 2,257 feet, is purported to be a mixture of stunted conifers and hardwoods, possibly a **Montane Yellow Birch-Red Spruce Forest** or some such variant. Several open canopy community types are observed as occasional interspersed patches within the matrix forest cover. Where bedrock rises to the surface, **Temperate Acidic Outcrops** can be found. The diminutive bryophytes and lichens that lay claim to these exposed landscapes offer a plant community in miniature with a color and textural mosaic of their own. Caution is the requisite behavior here when navigating through these fragile communities. **Temperate Acidic Cliffs**, located on the near vertical rock pitches closer to the head of Middlesex Notch, provide habitat for ravens and possibly other soaring birds. At the base of these cliffs, **Open Taluses**, with their jumble of rocky castoffs, provide scant purchase for trees or other vegetation. Aquatic and wetland natural communities can also be found within the Town Forest. **High Gradient Streams**, some with perennial flows and others running only intermittently, drain the upper reaches of the landscape forming dendritic patterns. They can often be encountered within the valley bottoms that dissect the area. On some of the flatter ground, particularly at higher elevations, **Seeps** and **Vernal Pools** pockmark the forest offering episodic aquatic habitat for amphibians and other water critters.

The natural communities encountered in the Town Forest exhibit both subtle and noteworthy changes across a myriad of spatial and temporal scales. Move upslope or across a moisture gradient and witness how the canopy trees or understory respond. Come back to the same location during another season or after a five year hiatus and celebrate the transformation. This shifting mosaic of habitat types offers the visitor, whether four legged or bipedal, an opportunity to explore and exploit an environment rich in diversity at multiple levels of biotic organization. The only constant in the Middlesex Town Forest is change.

**Recommendations:**

- a) Further assess and map natural communities to aid in future trail planning and forestry management.

### **2.1.3. Rare and Irreplaceable Natural Areas**

The Baseline Documentation Report (Appendix 7.2) references significant natural communities on or near the Town Forest, including boreal acidic cliff and boreal talus woodland. The summit of Chases Mountain may also be a unique area. Several rocky outcrops have been identified that feature fragile lichen and moss communities. These areas will need to be considered when laying out trails since significant foot traffic could damage them. There may be other outcrops that are less fragile where a trail or viewpoint would not pose a problem. Trails and logging roads should avoid unnecessarily disturbing pockets of Rich Northern Hardwoods communities, which feature a greater diversity of understory vegetation.

#### **Recommendations:**

- a) Further assess and map rare and irreplaceable natural areas to aid in future trail planning and forestry management.
- b) Maintain 50 feet of undisturbed and vegetated buffer on all sides of rare and irreplaceable natural areas. Exceptions may be made in cases where trail crossings or access to these areas is deemed necessary or desirable and will be designed to ensure minimal environmental impact.

### **2.1.4. Headwaters, Streams, Riparian Areas and Wetlands**

The Town Forest encompasses Winooski River headwaters, including a brook and its tributaries. The riparian areas along these streams are important for preserving water quality and ground water recharge. A stream is here defined as a channel that periodically or continuously contains moving water, has a defined bed, and has banks that serve to confine water at low to moderate flows. Streams include intermittent streams that have a defined channel and evidence of sediment transport, even if such streams does not have surface water flow throughout the year and/or throughout the channel. A minimum undisturbed and vegetated buffer of 50 feet on both sides of streams shall be required to offer the protection necessary to filter out sediment and other pollutants and thus maintain water quality, provide shade and enhance wildlife habitat. Any activity which encroaches on a stream or a riparian area must be designed to minimize the impact and maintain the natural condition of the stream. Any Forest Stewardship Plan shall incorporate Vermont's Forestry Acceptable Management Practices (AMP's) and shall strive to minimize the number of stream crossings. There are significant beaver influenced wetlands that border the Property and Notch Road. There are vernal pools on the Property, and their location, size, and features should be confirmed.

#### **Recommendations:**

- a) Further assess and map the location, size, and features of streams, riparian areas, wetlands and vernal pools.
- b) Except for necessary construction of stream crossings, maintain 50 feet of undisturbed and vegetated buffer on all sides of all water bodies including; streams, wetlands and vernal pools.
- c) Research any statutory requirements for the protection of Headwaters, Streams, Riparian Areas and Wetlands in the enabling legislation for Town Forests, and include in Plan.
- d) Incorporate Vermont's Forestry Acceptable Management Practices, at a minimum, into all logging operation plans and contracts.

## ***2.2. Wildlife***

For purposes of this Plan, wildlife habitat includes features or resources on the Property that provide food, cover, or space for the myriad of mammals, birds, reptiles, amphibians and invertebrates that occur on and around the property. Wildlife habitat features include wetlands, vernal pools, standing dead trees, mast trees, berry bushes, rock outcrops, cliffs, talus slopes, and coniferous forest stands, among others. Importantly, this Property connects already conserved parcels and improves the contiguous forest habitat associated with the broader Worcester Range, providing homes for many wide-ranging species including black bear, moose, white-tailed deer, fisher, bobcat, and others.

Wildlife sign on the property is abundant. Sign of white-tail deer is apparent and there is clear evidence that both moose and black bear use the Property. The Property also provides habitat for numerous bird species, including migrant songbirds. The Property is likely valuable as interior forest songbird habitat due to its size and location adjacent to other large blocks of conserved property, and is considered of high conservation priority by Audubon Vermont.

Hunting activities allowed by State regulations, including trapping, are permitted on the Property. Game species on the Property include white-tailed deer, black bear, ruffed grouse and wild turkey. There are no mapped winter deer yards on the property. The remote, wild character of the Property provides a unique, deep-woods experience for both hunters and other wildlife enthusiasts, while the proximity of this Property to other conserved lands makes it accessible to many.

The beaver influenced wetlands along the edge of the property possess vital wildlife functions and values including resting, breeding and nesting habitat for ducks, geese, and other wetland-dependant birds. The wetlands are a crucial resource for white-tailed deer, wild turkey, moose, black bear, and many other species as a source of food and water. They also provide a unique opportunity for wildlife viewing. These wetlands are a highly significant wildlife domain feature associated with the property that deserves careful management consideration.

Other important wildlife habitat features include vernal pools as breeding habitat for amphibians, potential raptor nesting sites, snags and large down woody debris, and a good number of mast trees, all of which should be managed for carefully.

### **Recommendations:**

#### ***i. Habitat Connectivity***

The most significant wildlife habitat value of the Town Forest is its size and remote character relative to a large area of conserved lands along the Worcester Range. This attribute should govern management actions directed at the conservation and enhancement of the Property for wildlife. The best strategy for maintaining this attribute is to

- a) Avoid developing any extensive structures or fragmenting features such as extensive and excessive trail systems. (See Conservation Easement Appendix 7.3 for language pertaining to structures.)

- b) Carefully design and implement forest management activities to minimize disturbance to the rugged terrain.
- c) Carefully design access roads for forest management activities to avoid intrusion into the higher elevations.
- d) Carefully plan trail development to avoid important wildlife habitat features as well as fragmentation of the larger contiguous habitat.

***ii. Managing Trees for their Wildlife Value***

- a) Design and implement forest management activities to retain mast producing trees such as American beech, cherry, apple, and oak. Importantly, this Property supports an extensive component of red oak, which is unusual in north central Vermont. Red oak provides a significant food resource for turkeys, deer, bear, and many other animals. The nuts from the oak trees are high in nutritional value compared to many other sources of food. All forest management activities should be designed to perpetuate red oak on this Property.
- b) Girdle specific trees to develop additional standing dead trees for wildlife habitat. These trees should be identified on the ground and marked accordingly by a qualified forester or biologist prior to commencing timber harvests. Retain at least 5 standing dead trees per acre in areas of timber harvest activities.
- c) While small patch cuts could be considered as a means of increasing the diversity of forest age classes on the site, there are expanses within the larger area on either side of the notch that provide young forest habitat. In 2010, providing extensive young forest habitat is not essential on this Property given the availability of this habitat condition on other properties in the area. After 2020, professionals will be consulted on the desirability and practicability of including small patch cuts for creating early successional habitat within considerations of the surrounding landscape matrix.

***iii. Protecting and Considering Other Resources***

Considering local management plans and the Audubon Forest Bird Initiative guide is important for increasing connectivity of wildlife habitat and collaborative regional stewardship.

- a) Consult management plans for the contiguous Middlesex Notch Wildlife Management Area and Putnam State Forest properties when there are such plans.
- b) Consult Audubon Vermont's Forest Bird Initiative guide for management practices geared toward specific song birds.

### **3. Forest Resources**

This Plan is intended to provide guidance for the management of forest resources in the Middlesex Town Forest. It is intended to be dynamic and flexible, allowing for change over time. The Plan incorporates the Forest Stewardship Plan (Appendix 7.4) prepared in January 2010 by Russ Barrett, Washington County Forester (updated from the November 2007 version created for the Ott/Steed property by professional forester Nelson Blackburn. Regarding forest resources, the



professionals will be consulted on the desirability and practicability of including small patch cuts for creating early successional habitat within considerations of the surrounding landscape matrix.

***Stand 1:***

This stand of 126 acres is relatively high elevation hardwood forest with scattered softwoods. Predominant species include white birch, red maple, red spruce and yellow birch. Soils are very stony and shallow to ledge with much exposed rock outcrop. Trees tend to be short-bodied and exhibit problems associated with low site quality such as internal decay, shallow rooting and top dieback. These problems have led to wind throw, stem breakage and mortality. This stand has limited timber potential.

***Stand 2:***

This 15-acre stand includes the peak of Chases Mountain and is extremely ledgy and rocky, with little soil cover. Trees are stunted and will not reach commercial size.

***Stand 3:***

Consisting of 204 acres, this is the largest stand on the forest. It is a fairly mature northern hardwood stand that comprises approximately fifty percent (50%) of the property. Common species include red maple, sugar maple, white ash, yellow birch, white birch, black cherry, red oak and scattered softwoods such as red spruce and hemlock. Regeneration present is primarily softwood (spruce and hemlock), with lesser amounts of hardwood (maple, beech, and red oak). A series of bedrock controlled ridges run generally north to south. Growing conditions are rather good between the ridges and less so on top of the ridges. Timber potential is fair to good with limiting factors being access, ephemeral stream locations and ruggedness of the terrain.

***Stand 4:***

Located along the Middlesex/Waterbury town line, this 8-acre stand consists of mixed softwoods and hardwoods that is primarily softwood dominated on the steepest portion of the stand towards the town line and more hardwood dominated on the ridge top. Extreme steepness and shallow soils limit tree growth and harvesting possibilities.

***Stand 5:***

Inhabiting the most southerly and lowest elevations of the property, this 51-acre stand likely grew up from abandoned pasture land. It is an uneven-aged mixed wood stand with predominant species being red maple, beech, white birch, yellow birch, red spruce, sugar maple, white ash, white pine, hemlock, red oak aspen and hop hornbeam. This is a good site for growing mixed wood species; white pine does particularly well.

**Recommendations:**

***i. Current skid roads***

- a) Assess, inventory and GPS map all current skid roads to determine their location, current condition, suitability, and need for maintenance or repair.
- b) Assess current skid roads for their potential suitability as recreational trails.

### ***ii. Access for logging***

- a) Since the current deeded access is limited and difficult, the Town should pursue other access options, including rights of way across abutting land. Possible access to western portions of the forest from Waterbury should also be explored.

### ***iii. Harvesting techniques***

- a) As a general principle, low impact logging techniques should be used in the forest. To that end, winter logging on frozen ground, horse logging, or the use of forwarders should be preferred. Logging in other seasons could be considered if conditions permit, and if consistent with other management objectives.
- b) When appropriate and consistent with best practices, slash should be lopped to not more than 24" above ground especially in areas of high visibility such as near recreational trails.
- c) All timber activity and sales are to be marked and managed by a professional forester. The forester shall determine: 1) optimal residual basal area after the harvest, 2) age class distribution goals (or a q-factor) after the harvest, and 3) the size of the groups that will be used during the harvest.
- d) New skid roads (in addition to other considerations) should be laid out to minimize impacts on recreation trails including crossing only at right angles.
- e) All harvesting activities should preserve water quality, at minimum, by following the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont published by the Vermont Department of Forests, Parks, and Recreation.

### ***iv. Tree disease and non-native invasive species***

Current evidence of beech necrotic dieback, *Poria obliqua* on yellow birch, and white pine blister rust should be monitored. Although not yet present, signs of the hemlock woolly adelgid and the emerald ash borer should be monitored for. Also to be monitored, as part of general stewardship, is the introduction of other non-native invasive plants and insects. Of particular focus should be likely areas of intrusion such as logging landings, skid and access roads, and other breaks in the forest cover. If monitoring of tree diseases or non-native invasive species demonstrates the need for additional management or treatment, the Town will draft and implement a detailed plan to manage or treat the occurrences using "early detection, rapid response" methods to ensure forest health.

### ***v. Firewood***

The production of firewood from the Town Forest, as a direct activity, or as part of thinning or harvesting actions, is an allowed activity when carried out in accordance with the Forest Stewardship Plan. In addition, if a program to provide firewood for low income residents is initiated, the Town Forest could be one source of firewood for such a program and it could be led by volunteers, and requires a Special Use Permit.

***vi. Emerging Technologies, including Biomass***

Given the growth of interest in local biomass energy production, or unforeseeable emerging technologies, the forest should be available for such use, but only as is compatible with all other aspects of the Plan. The Town Forest Stewardship Committee will carefully review all proposals for application of emerging forestry technologies on the Property, and determine if additional Guidelines need to be added to this Plan.

***vii. Non-timber resource extraction***

Maple sugaring will be allowed in designated areas, by Special Use Permit only. Trees with high value for sawlogs or veneer trees shall not be tapped. If tubing is used, it must not interfere with other uses of the forest. Commercial operations need to apply for a Special Use Permit, and the permit will require that industry accepted performance standards are met. Other non-timber forest products (ie. berries, mushrooms, fiddleheads, etc.) may be harvested for individual use. The Town reserves the right to require a Special Use Permit if there is concern for depletion of the resource, aesthetic impact, interference with trails or if uncontrolled harvesting may have an adverse impact on the health of the forest.

***viii. Ongoing stewardship***

A schedule of stewardship activities will be created, followed, and maintained for such activities as boundary marking, trail maintenance, monitoring for resource degradation, monitoring for conservation easement infringements and timber trespass, annual assessments, removal of safety hazards, etc.

***ix. Protecting other resources***

Refer to Natural Resources and Wildlife (Section 2) and Conservation Easement (Appendix 7.3) for additional recommendations, as they relate to forestry.

***x. Town Forest Income***

The sale of timber, maple sap or other products from the Property may generate income for the Town. While volunteer labor should be utilized as much as possible for projects in the forest, there are likely to be tasks on the Property that will require some funding (such as trail construction, parking area construction, signs, etc.) A Town Forest Fund dedicated specifically for projects carried out on or for the Town Forest should be established. Donations, grants and income generated from the forest could be sources of money for this fund.

## 4. Recreational Uses

This section serves as a blueprint for recreational activities in the Town Forest. The objective is to provide access to as many user groups as possible while protecting and conserving the natural resources and wildlife habitat of the Forest as mandated by the Conservation Easement. This section outlines unrestricted, restricted, and prohibited activities, and provides preliminary guidelines for the development of a trail system in the Forest. All users must abide by the Leave No Trace ethic and are required to respect protected areas as described in the Natural Resources and Wildlife (Section 2) of the Plan.

### 4.1. *Unrestricted Uses*

The following activities are allowed throughout the property both on and off trails, subject only to the general rules and to potential seasonal restrictions as outlined in Section 4.7.

- **Hiking & Jogging**
- **Wildlife Viewing & Bird watching**
- **Skiing & Snowshoeing**
- **Walking Dogs:** Dogs are permitted on and off trails. Leashes are not required, although dog owners are required to keep their pets under voice control and to clean up after them.
- **Educational Activities:** Public and private educational groups and organizations may use the forest for educational purposes subject to general restrictions.

### 4.2. *Uses on Designated Trails*

As of spring 2010, no functional trail system exists in the Town Forest. User groups, including hikers and skiers, will be responsible for developing trails subject to approval by the Town (see Guidelines for trail development). The following activities will be permitted provided that user groups can build and maintain trails consistent with this Plan's Guidelines. User groups will also be required to monitor trail use to ensure that users abide by the rules outlined in the Plan.

- **Mountain Biking:** Bikes will be allowed on trails designated for mountain bike use. Riding in muddy conditions is prohibited to minimize trail erosion.
- **Horseback Riding:** Horseback riding will be allowed on trails designated for horses. Riding in muddy conditions is prohibited to minimize trail erosion.

### 4.3. *Uses Requiring Permission from the Town*

The following uses may be permitted under certain conditions with permission from the Town.

- **Camping:** Until the Town Forest is adequately explored and potential campsites identified, camping is prohibited. In the future, camping may be permitted in certain designated areas for organized groups or individuals. Permission from the Town will be required, and all authorized camping must follow the Leave No Trace ethic.
- **Campfires:** Due to the risk of wildfire, fires are currently prohibited. If camping is allowed in the future, campfires may be allowed under ideal conditions and in designated areas. Permission from the Fire Warden will be required.

#### ***4.4. Uses Requiring a State License/Registration***

The following uses are allowed in the Town Forest with a valid state license/registration.

- **Hunting & Trapping:** Hunting and trapping is permitted in the Town Forest in compliance with the laws of the Vermont Fish & Wildlife Department. A valid state hunting and/or trapping license is required. The Town will make an effort to inform the public about proper safety precautions during hunting seasons. The Town reserves the right to place conditions on trapping if deemed necessary to protect the safety of users.
- **Snowmobiling:** In the past, the Vermont Association of Snow Travelers (VAST) maintained a trail that may have passed near or through the Town Forest. Some years ago the trail fell into disuse when access was denied by the owners of private land adjacent to the Town Forest. If access could once again be restored, and a trail reconstructed and legitimately linked to the VAST network outside the Town Forest, snowmobile use should be permitted according to the Plan's Guidelines for developing trails. As required by State Law, snowmobiles must be registered with the State.

#### ***4.5. Motorized Recreational Use***

Current policy of Vermont Land Trust (VLT) and Vermont Housing Conservation Board (VHCB), co-holders of the Conservation Easement for the Town Forest, prohibits the use of motorized vehicles—with the exception of snowmobiles and special needs use—on all of its properties. VLT has indicated that should the policy change, motorized use of the Town Forest might be allowed under several conditions:

- Trails for motorized use would have to be part of a larger system.
- Users would have to provide for adequate management and oversight of trail use.
- Any motorized use would have to be highly respectful of adjacent property owners and the Town, not interfere with other users, and minimize resource degradation according the parameters of this Plan.

Several residents have expressed concern that the ban on motorized use excludes a significant group of users from enjoying the Town Forest. The Middlesex Town Forest Planning Committee recommends that a committee of committed users be formed with the following objectives:

- Survey the forest to determine whether the terrain is desirable for recreational motorized uses.
- If the terrain is suitable for motorized use, map out potential trail locations in accordance with the guidelines in this Plan and as required by VLT.
- Draft a proposal demonstrating that the motorized recreational use in the Town Forest would meet the guidelines established by VLT and this Plan. After approval by the Town, the proposal would be submitted to VLT and VHCB for consideration. (If VLT and VHCB agree to amend the Conservation Easement to allow motorized recreational use in the Town Forest, VLT asks that the Town cover staff time and out of pocket expenses incurred during amendments that are requested by the Town.)

#### ***4.6. Prohibited Uses***

The following uses are prohibited in the Town Forest.

- **Target Shooting/Random Shooting:** To minimize danger to other users, the use of guns and other weapons is not allowed in the Town Forest, except by responsible licensed hunters subject to Fish and Wildlife laws.
- **Trucks:** Recreational use of trucks is prohibited in the Town Forest. Trucks may be allowed on the property for logging purposes, and for trail construction if access can be found on existing roads. Specific expressed permission from the Town is required beforehand.

#### ***4.7. General Rules for Recreational Use***

##### **4.7.A. Foraging and Collecting**

The killing of non-game animals or the permanent removal of nests or plants (by the roots) is prohibited. Activities such as the limited collection of tree leaves, fern fronds, berries, fungi, flowers, fruits, algae and lichen specimens are permitted for educational and individual use. The Town reserves the right to require a special use permit if there is concern for depletion of the resource, or if uncontrolled harvesting may have an adverse impact on the health of the forest.

##### **4.7.B. Educational Materials**

Any educational activity that involves the placement of stakes, ropes, wires, fencing, netting, flagging, signs, paint, branches, brush, vines or other such materials requires permission from the Town. Placement of such materials must be done so as not to endanger humans, pets or wildlife. All such materials must be removed in a timely manner.

##### **4.7.C. Seasonal Restrictions**

During public forums, seasonal restrictions on recreational uses were discussed as a way to ensure safety during hunting season and promote natural resource protection during wet conditions. No consensus was reached. As a result, no seasonal restrictions will be imposed for a trial period of one year. In April 2011, and subsequently at a minimum of every five years, potential incompatibilities and trail impacts will be evaluated and the Town will revise the Plan as necessary. In the interim, the Town will make an effort to publicize the dates of hunting seasons, periods of muddy conditions, and inform users of proper safety precautions. Users are strongly requested to avoid using trails that are muddy or wet, and to follow proper safety precautions, so as to avoid undue natural resource degradation, personal injury, or necessitating seasonal restrictions by dates.

##### **4.7.D. Leave No Trace**

All users of the Forest are required to abide by the Leave No Trace ethic (see [www.LNT.org](http://www.LNT.org)). Users must confine their activities to durable ground, carry out all trash, respect other users, respect wildlife and wildlife habitats, avoid designated protected areas, and minimize impact on natural resources.

## **Guidelines:**

### ***i. Developing Access, Trails, Structures and Signs***

In developing access, trails, structures and signs for the Town Forest, the following process will be used for all interested user groups. User groups may include, but not be limited to, those representing the recreational uses identified above.

1. Prior to establishing any trails, the Town will:
  - identify and mark the boundaries of the Property;
  - conduct a natural and cultural resources inventory of the Property;
  - inventory and identify all past roads, including logging and trails, on the Property;
  - identify all potential access points and associated parking areas; and
  - identify all nearby trail networks, their access points, and any parking areas.
2. Any user group interested in building facilities or trails will identify at least one person to be the liaison for the group to facilitate communication with the TFSC.
3. Once established, each user group will survey the Property to identify potential trail locations. If there are nearby existing trail networks, each user group will identify these as well.
4. Preferred locations will be flagged by each user group with a pre-determined color and mapped using GPS.
5. Each user group will present their recommended trail systems to the Town, asking for approval.
6. In reviewing each user group's request, the Town will consider the proposed facility or trail's potential to:
  - cause any adverse impacts to any natural resources
  - be shared with other user groups
  - be used by special needs populations
  - be connected to other compatible nearby trail networks
  - be used for timber management or other land management activities
  - be used for educational opportunities

Additionally, the following questions will be asked:

- what are the development and maintenance plans?
  - who is responsible for long term maintenance?
  - how will the facility or trail's development or maintenance plans be funded?
  - what management issues have been identified and how will they be handled?
  - should any enforcement issues arise, who is responsible for them?
  - is the proposed facility or trail compatible with the Management Plan?
7. If approved, the Town may provide the user group with additional guidance on what is expected in terms of facility or trail design, construction, maintenance, management, and enforcement.
  8. Based on the requests the Town receives, the Town will develop a Town Recreational Trails and Signs Plan that identifies which trails are compatible for multiple uses, which trails are designated for specific individual uses, any seasonal use issues in need of

management, and what types of signs and informational kiosks should be developed in what locations.

***ii. Access***

In assessing potential access points, the Town will consider opportunities for combining accesses for multiple recreational uses, access for timber management and other land management activities, opportunities for access for special needs populations, and opportunities for educational signs.

***iii. Trail Development, Maintenance and Enforcement***

Trail clearing, such as brush removal, limbing or clipping, is expressly prohibited without the approval of the Town per the process outlined above. When developing trails, all user groups will be required to implement the generally accepted best practices for designs, construction specifications and maintenance for the trail's respective uses. Each user group will be responsible for funding the development of their respective facilities. If there is dedicated Town Forest Fund availability, a user group may make a request to the TFSC to use such funds to help cover some of the trail construction costs. Each user group will be responsible for maintaining their respective facilities and monitoring users to ensure compliance with trail use regulations.

***iv. Structures and Signs***

The construction of any type of structure must be in accordance with the Conservation Easement and approved by the Town, and include a sustainable maintenance plan. The Town will install or approve signs that are in accordance with the Conservation Easement to assist with boundary identification, access points and trail head locations, wayfinding and trail systems, interpretive signs, and informational kiosks. All signs must be approved by the Town, and the Town's approval will be contingent on the proposed sign's conformance with the Conservation Easement, the Town Recreational Trails and Signs Plan (described above in i.8), and a sustainable maintenance plan for the sign.



## 5. Education

The Town Forest is a community asset. It is a gathering space for community members of all ages to learn about and enjoy the natural and cultural resources of Vermont's forests. It is a demonstration site for natural resource protection, sustainable recreational uses, and sustainable forestry. The Plan is responsible for promoting activities that advance the educational and community involvement goals of the Town Forest. Education and community involvement goals include:

- Inclusive community dialogue around Town Forest management topics.
- Transparent and easily accessible information about all Town Forest topics.
- Place-based nature programs and facilitated independent explorations that are safe, supportive, and accessible to everyone. (While not everyone is able to explore the forest on foot, programming can include accessible classroom and community lessons, interpretive slideshows, etc.)
- Community service projects that improve the forest's recreational access, educational outreach and impact, and sustainable forest products.

### **Recommendations:**

- a) Inform forest visitors with signs, programs and outreach efforts about responsible and respectful use of the property, as outlined by the Plan.
- b) Provide information and educational resources about the Town Forest to town residents through newsletters, public meetings, listserve messages, Town Forest website, guides and brochures, maps, signs, and classroom and field programs.

## 6. Town Forest Stewardship Committee

Implementation of this Plan is the responsibility of the Middlesex Selectboard. To help the Selectboard fulfill their responsibilities, the Selectboard and the Conservation Commission will create a Town Forest Stewardship Committee (TFSC) that will act as a subcommittee of the Conservation Commission. The TFSC will be responsible for the day-to-day management of the Town Forest. The Town will work cooperatively with VLT on any revisions to the Plan to ensure compliance with the conservation easement.

### **6.1. Appointments**

The Conservation Commission will help to establish the TFSC and will have at least one of its commissioners serving on the TFSC. At least one Selectboard member and Planning Commission member will be identified as liaisons to serve on the TFSC. These representatives are responsible for serving as an information conduit between the TFSC and their respective board or commission. The TFSC or Conservation Commission will provide at least two Town Forest briefings per year to the Selectboard. The Conservation Commission will attempt to fill the remainder of the TFSC with at least one representative from each of the user groups.

## **6.2. Structure**

The TFSC will meet as needed, but not less than four times per year. The TFSC will appoint a Chair, Secretary, and Treasurer. The Chair will set the meetings, develop the agendas, and run the meetings. The Secretary will take minutes of the meetings and distribute the approved minutes to at least the TFSC members, the Conservation Commission, the Selectboard, the town website, and the Town Forest general interest contact list. The Treasurer will work with the Conservation Commission Treasurer and the Town Clerk to ensure Town Forest related financial accounts are being properly maintained, and will report the status of these accounts at TFSC and Selectboard meetings. The TFSC will be open to any Middlesex resident that would like to serve. The Town reserves the right to impose term limits and staggered terms.

## **6.3. Decisions**

If and when matters of financial, legal, policy or controversial consequence arise, the TFSC will make recommendations for action to the Conservation Commission, who will then make recommendations for action to the Selectboard for a final decision. The TFSC will also be responsible for making sure the various user groups are self-enforcing and implement their respective policies of the Management Plan. All applications for Special Use Permits will be made to the TFSC, which will make recommendations to the Conservation Commission and the Selectboard for a final decision.

### **Recommendations:**

- a) The Town should create a dedicated Town Forest Fund that doesn't expire after a year, is funded by donations, grants and income generated from the Town Forest, and is dedicated solely to Town Forest expenses and improvements.
- b) Ensure that the Town's insurance policy is written to cover the unique kinds of situations that might occur in a town forest, such as injury related to a timber harvest or other unusual circumstances that might not arise on other Town property.

Approved and Adopted by the Middlesex Selectboard on \_\_\_\_\_.

Approved by Vermont Land Trust and Vermont Housing and Conservation Board on \_\_\_\_\_.

Schedule of Management Activities			
Activity Date	Priority	Activity	Responsible Party
2010	High	Establish Town Forest Stewardship Committee (Sec. 6)	Selectboard and Conservation Commission (CC)
2010	High	Assess, inventory and GPS map all current skid roads (Sec. 3.1 and Sec. 4 Guidelines)	Town Forest Stewardship Committee (TFSC)
2010	High	Identify and initially mark property boundaries (Sec. 3.1)	TFSC
2010-2011	High	Establish Town Forest Fund (Sec 3.1)	TFSC
2010-2011	Medium	Further assess and map soil types (Sec. 2.1.1)	TFSC
2010-2011	Medium	Further assess and map natural communities, rare and irreplaceable natural areas and cultural resources (Sec. 2.1.2, 2.1.3 and Sec. 4 Guidelines)	TFSC
2010-2011	Medium	Further assess and map the location, size, and features of streams, riparian areas, wetlands and vernal pools (Sec. 2.1.4)	TFSC
2010-2011	Medium	Research any statutory requirements for the protection of Headwaters, Streams, Riparian Areas and Wetlands in the enabling legislation for Town Forests (Sec. 2.1.4)	TFSC
2010-2011	Medium	Assess current skid roads for their potential suitability as recreational trails (Sec. 3.1 and Sec. 4 Guidelines)	TFSC
2010-2011	Medium	Identify all potential access points and associated parking areas (Sec. 4 Guidelines)	TFSC
2010-2011	Medium	Identify all nearby trail networks, access points, and any parking areas (Sec. 4 Guidelines)	TFSC
2010-2012	High	Pursue alternative timber access options (Sec 3.1)	TFSC
April 2011 and at least every 5 yrs.	Medium	Assess need for seasonal recreational restrictions (Sec. 4.7.C)	TFSC
2012	Medium	Timber sale on stands 3 and 5 (Forest Stewardship Plan)	TFSC, CC and Selectboard
By 2015 or as needed if earlier	Medium	Evaluate Town Forest Management Plan and revise as needed	TFSC, CC and Selectboard
By 2015 or as needed if earlier	Medium	Evaluate Forest Stewardship Plan and revise as needed	TFSC and Conservation Commission
Ongoing	High	Monitor for exotic invasive species (Sec. 3.1)	TFSC
Ongoing as needed	High	Maintain property boundary markings (Sec 3.1)	TFSC
Annually	High	Monitoring for resource degradation, timber trespass, easement infringements and safety hazards (Sec. 3.1)	TFSC
Dependant upon trail proposals	Low	Develop a Town Recreational Trails and Signs Plan (Sec. 4 Guidelines)	TFSC

## 7. Appendices

Most information can be found at the Middlesex Town Forest website:  
<http://sites.google.com/site/middlesextownforest/Home>

### 7.1. *Maps*

<http://sites.google.com/site/middlesextownforest/Home/learn-more>

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### 7.2. *Baseline Documentation Report*

<http://sites.google.com/site/middlesextownforest/Home/learn-more/vlt-baseline-documentation-report>

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### 7.3. *Conservation Easement & Addendum letter*

This is an overview only. Full Conservation Easement available at:

<http://sites.google.com/site/middlesextownforest/Home/learn-more/conservation-easement>

The development rights for the 403 acre town forest property are held in a perpetual conservation easement by the Vermont Land Trust, Inc. (VLT) and the Vermont Housing and Conservation Board (VHCB), and are recorded in the Middlesex Land Records.

#### **Restricted Uses Of The Property**

The following are limitations on the landowner's use of the conserved property:

1. **General:** A conserved property may be used for habitat protection, forestry, education, non-commercial, non-motorized recreation, habitat conservation, and open space purposes only. Unless specified in the easement, no residential, commercial, industrial, or mining activities are permitted. No buildings or appurtenant structures or will be constructed, created, installed, erected, or moved on to the protected property unless specifically permitted in the easement and the Management Plan.
2. **Rights of Way and Easements:** The easement prohibits rights of way and access easements including driveways, roads, and utility lines unless specifically permitted in the document or unless **written approval** for new easements is obtained from VLT. Existing rights of way and easements are unaffected.
3. **Signs:** Signs are generally prohibited. However, exceptions include property identification signs, program-based signs, boundary markers, directional signs and memorial plaques. Informational and interpretive signs are permitted. Signs limiting access or use consistent with the public access easement are allowed. With the written

permission of the landowner, VLT may erect signs indicating that the property has been conserved by VLT and VHCB.

4. **Trash:** The storage of trash, human waste, or unsightly material on the property is prohibited unless VLT approves such storage in advance. No permission is required for temporary trash storage.

5. **Excavation:** The easement prohibits filling, excavation, removal of topsoil, sand, gravel, rocks, or minerals, or any change to topography unless the change is necessary to carry out the uses otherwise permitted by the conservation easement. Surface mining is expressly prohibited.

6. **Subdivision:** Subdivision of the protected property is prohibited unless the landowner first secures **VLT's written approval** which VLT may give or withhold in its sole discretion. Since the intent of the easement is to keep the protected property together as a single unit, except when a right to subdivide is specifically permitted in the easement, approval to subdivide is rarely granted. Even when VLT does approve a subdivision, all the land will usually remain subject to the easement.

7. **Motor Vehicles:** The easement prohibits the operation of motorized vehicles **except** for uses permitted in the easement, such as wildlife, horticulture and forest management, trail grooming and maintenance, handicap access and for public safety purposes. Snowmobiling is left to the discretion of the landowner.

8. **Water Resources:** The easement prohibits manipulation of natural watercourses or other water bodies. No activities that would be detrimental to water purity, natural water level or flow will be permitted except as reasonably necessary to carry out the uses permitted in the easement.

9. **General Clause:** The easement includes a general clause which ensures that no uses will be made of the property which are inconsistent with the purposes of the conservation easement. Proposed uses not addressed in the easement, or changes in existing uses, may be approved by VLT if they are consistent with the purposes of the easement.

### **Permitted Uses Of The Property**

The following are permitted activities on and uses of the conserved property:

1. **Recreation:** The landowner has the right to use the protected property for low-impact, low density, non-motorized, recreational purposes consistent with the easement's purposes. Such activities may include, but are not limited to, bird watching, primitive camping, hiking, snowshoeing, and cross-country skiing. Mechanized recreation such as mountain biking and other activities such as horseback riding may be permitted by the

landowner if such activities are regulated in the Management Plan and are consistent with the easement's purposes.

2. **Management Plan Activities:** are allowed provided that activities are reasonably necessary to carry out the Purposes of the Grant and are permitted in the Management Plan. Such activities may include management of vegetation and wildlife.

3. **Fields:** The landowner has the right to establish, use, and maintain fields for wildlife or plant habitat enhancement or for scenic vistas provided that the initial forest clearing to establish habitat or scenic fields is part of the Management Plan.

4. **Forest Management:** The landowner may harvest timber and conduct maple sugaring operations, along with the right to construct and maintain logging roads. The harvesting of timber must be in accordance with a **Forest Stewardship\* Plan which shall be a component of the Management Plans.**

\*VLT refers to the Forest Management Plan, which we call the Forest Stewardship Plan.

5. **Trails:** The landowner may clear, construct, and maintain trails for non-motorized, non-commercial recreational activities.

6. **Fees:** The landowner may charge reasonable fees to the public for admission to and use of the property for education and recreation. In addition, fees may be charged to organizations for recreational use provided that the use does not interfere with the access of the general public to the property.

7. **Permits:** The landowner has the right to issue temporary special use permits or licenses allowing for the commercial or non-commercial use of the property for recreational, community entertainment, educational, agricultural, forestry, or research purpose as long as the permit or license does not reasonably interfere with the access of the general public to the property and only authorizes uses or actions that are consistent with the purpose of the easement.

8. **Minor structures:** The easement allows for construction, repair, maintenance, and use of minor structures necessary for non-motorized, non-commercial recreational and educational uses of the property (lean-tos, gazebos, deer stands, etc.). Any minor structure shall not have access roads, utility service or facilities, waste disposal systems, or plumbing. The minor structures are not to be used for year-round occupancy or commercial use. **Prior written approval of VLT** is required before construction of a minor structure begins.

*This is a summary of the actual legal rights. For a complete description of these rights, refer to the Grant of Development Rights and Conservation Restrictions and Public Access Easement.*

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Addendum Letter:

December 14, 2009

Mr. Peter Hood, Chair  
Middlesex Select Board  
5 Church Street  
Middlesex, VT 05602

RE: Motorized Recreation Town Forest Property (Former Ott-Steed), Middlesex VT

Dear Peter:

This letter is with respect to your inquiry regarding the future possibility for motorized recreational uses (including, but not limited to ATV use) on the Ott-Steed Property, otherwise known as the Middlesex Town Forest, which has been conserved via a Grant of Development Rights, Conservation Restrictions and Public Access Easement (“the Grant”) from the town to the Vermont Land Trust (“VLT”) and the Vermont Housing and Conservation Board (“VHCB”).

As stated in the Grant’s purposes, the town shares the goals of VLT and VHCB to conserve the Ott-Steed property as a town forest that provides timber production, protects wildlife habitat, and provides educational benefits and an array of recreational opportunities. Given these various goals and acknowledging the town’s interest in the possibility of future compatible motorized recreational uses, VLT and VHCB state the following:

1. Currently the policies of both VLT and VHCB prohibit motorized recreational use on public properties in which we hold a conservation easement. Consistent with those policies, the Grant prohibits motorized recreation. In the event that these policies are modified, VLT and VHCB will consider amending the Grant to make specific motorized recreational uses permitted uses on the Middlesex Town Forest property, provided they find that any such use is consistent with the Purposes of the Grant and does not degrade the resources protected by the Grant.
2. Section I(B) of the Grant requires that various uses of the Town Forest be in accord with a management plan that the Town has developed for this property, created through a process that includes public comment and involvement. If the Grant is amended to enable certain motorized recreational uses, changes to the management plan to accommodate those uses would be required under such an inclusive public input process. The management plan process requires that these uses also be consistent with the Purposes of the Grant articulated in Section I(A).
3. In considering whether to amend the Grant, it must be shown that the proposed motorized recreational use of the property will be part of a larger, meaningful, motorized recreational trail network linking this property to other properties in an officially designated trail system.

4. In considering whether to amend the Grant, it must be shown that the proposed creation and maintenance of such a trail, and management of its use and users, will be under the oversight and maintenance of an entity that exists for that purpose.

5. Any motorized recreational uses or trails considered would need to be highly respectful of adjacent property owners and other users of the property.

I hope that this is responsive to your inquiry.

Sincerely,

Richard F. Peterson, Jr.  
Project Counsel, VLT

James M. Libby, Jr.  
General Counsel, VHCB

VLT Project No. 130225  
VHCB Project No. 2008-056

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#### ***7.4. Forest Stewardship Plan***

<http://sites.google.com/site/middlesextownforest/Home/learn-more/forest-stewardship-plan>

Interim Management Plan  
<http://sites.google.com/site/middlesextownforest/Home/learn-more/interim-forest-management-plan>

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### ***FOREST STEWARDSHIP PLAN***

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This is a forest management plan developed under current Federal and State forest stewardship guidelines.

**Date Prepared:** January 2010  
**Plan Time** 2010 - 2020  
**Frame:**  
**Property** Town of Middlesex  
**Owner(s):**  
**Address:** 5 Church St.  
Middlesex, VT  
05602  
**Telephone:** 802-223-5915  
**Email:** middlesex@pshift.com  
**Property**

**Address:  
(if applicable)**

**Legal description or directions to site:** The Middlesex Town Forest contains 403 more or less acres and is situated on the class IV Notch Road that is an extension of the Class III portion Notch Road. The Middlesex-Waterbury town line forms the border of the extreme western side of the property. The property is bordered on the north by an 80 acre portion of Putnam State Forest and on the southeast by the 627 acre State owned Middlesex Notch Wildlife Management Area.

**Property Code:** Municipal Forest  
**Prepared By:** Russ Barrett  
**Company:** State of VT, Dept Forests, Parks and Recreation  
**Address:** 5 Perry St., Suite 20  
Barre, VT  
05641  
**Telephone:** 802-476-0172  
**Email:** russ.barrett@state.vt.us

**Approvals:**

**Landowner:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Preparer:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Approving Agency:** \_\_\_\_\_ **Date:** \_\_\_\_\_

***GENERAL INFORMATION***

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**Landowner Assessment**

**Description of resources and level of interest from the landowner:**

**Landowner's goals for the property:**

- Create a generally uniform overstory canopy with scattered gaps or other variation in overstory structure
- Maintain a closed overstory canopy with an open or sparse understory
- Create new openings in the forest
- Allow Visual Access
- Keep a few big trees
- Promote vegetation that displays colorful foliage and/or fruit in Autumn
- Promote vegetation that maximizes a variety of foliage
- Generate periodic income from timber production
- Increase the richness of wildlife species

- Maintain existing water yields
- Protect water resources
- Protect riparian zones
- Enhance biological diversity on a local level
- Restore native ecosystem elements
- Discourage or eliminate exotic elements
- Develop hiking trails
- Create viewscapes or vistas
- Promote hunting opportunities

**Goal comments:**

**General Property Information**

**Total land area:** 403.0 Acres

**Total number of stands/mgmt units:** 5

**Region/subsection or ecosystem type:** Northern Green Mountain Biophysical Region

**General property description:** The Town of Middlesex acquired the parcel on January 29, 2009, and on that same date granted certain development rights, conservation easements and public easement to the Vermont Land Trust and The Vermont Housing and Conservation Board. A copy of the GRANT OF DEVELOPMENT RIGHTS, CONSERVATION RESTRICTIONS, and PUBLIC ACCESS EASEMENT is attached to this management plan document. The parcel size is 403 acres according to the Middlesex Grand List. The entire parcel is forested with the primary forest type being northern hardwood. The parcel ranges in elevation from 1140' along the south central boundary to 2257' on top of Chases Mountain. There has been very limited forest management activity on the parcel for the last 25 years and due to the limited accessibility, steep terrain, shape and size of the property; small scale harvesting operations or treating limited acreage will most likely not be possible. Wildlife is abundant on this property. Moose droppings, bark stripping and tracks can be found over most of the property. Signs were noted of other species including owls, black bears and white tailed deer. Some property lines have been somewhat difficult to locate. The Forest Committee is in the process of flagging and eventually, permanently marking the boundaries.

**Description of surrounding properties:** The Middlesex Town Forest is bordered by an 80 acre parcel of State Forest to the north, the 627 acre Middlesex Notch State Wildlife Management Area to the south and 664 acres of conserved privately-owned land to the east. Together they make a very nice area of

conserved land totaling almost 1800 acres along the southern spine of the Worcester range.

**Soils information:**

Soil maps and descriptions are attached.

**Management access:**

As of January 2010, management access for the Middlesex Notch parcel would be via the Notch Road, which borders the southeast boundary of the forest. Access from the Notch road is not ideal in that it involves a stream crossing, a tight turning radius for equipment and a relatively steep slope. The Town forest committee is researching improved access for management purposes. The Notch road access would be better suited for recreation purposes.

**Presence of threatened and endangered species:**

No rare, threatened or endangered species are presently mapped on the Town Forest or adjacent parcels.

**Cultural importance:**

One of the Forest plan sub-committees is looking into possible cultural and historical importance of the parcel.

**Map information:**

A GIS map is included in the plan.  
Items with an asterisk are shown on the map:

- \* North arrow (required)
- \* Scale bar (required)
- \* Legend (required)
- \* Locator map
- \* Stand boundaries

***EXISTING CONDITIONS FOR STAND '1'***

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**Land area:**

Land area: 126 Acres

**Landuse history:**

Most of this stand may have always been in forest cover. The limited accessibility and general ruggedness of the terrain make it difficult to imagine it being used for any agriculture purposes in the past.

**Forest Type:**

- Existing
- Potential

Northern hardwood with scattered softwood  
Northern Hardwoods

**Successional trend:**

Relatively high elevation hardwood with scattered softwood. Predominant species include white birch, red maple, red spruce and yellow birch. Soils are very stony and shallow to ledge with much exposed rock outcrop. Trees tend to be short-bodied and exhibit problems associated with low site quality such as internal decay, shallow rooting and top dieback. These problems have led to wind throw, stem breakage and mortality.

**Forest health:**

Usual problems associated with shallow soils, high elevation and general low site quality

**Site quality:**

Site index is site 3. Poor to fair, shallow soils, high elevation, and

exposure to south and west winds.

<b>Approximate age:</b>		<b>Size class:</b> Poles (5.5 - 11.5")
<b>Trees per acre:</b>	275	<b>Mean Stand Diameter:</b> 7.3 in.
<b>Basal Area (BA):</b>	72	<b>Acceptable BA:</b> 48
<b>Growth Rate:</b>		<b>Timber Quality:</b> low
<b>Stocking:</b>	Adequate - B-line on northern hardwood stocking guide.	
<b>Stand Volume:</b>		
<b>Habitat and wildlife use:</b>	Good for upland species that require large blocks of mixed and hardwood forestland.	
<b>Recreational opportunities:</b>	Good for dispersed forms of recreation such as bird watching and hunting, although limited somewhat by elevation, ruggedness of terrain and accessibility.	
<b>Potential for timber production:</b>	Fair - limited timber potential	
<b>Potential for other uses:</b>		
<b>Water quality issues:</b>	Contains headwaters for streams heading through 3 different watersheds.	
<b>Important natural features:</b>	Shallow soils with ledge and exposed bedrock.	

### ***MANAGEMENT PLANS FOR '1'***

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#### **Landowner's objectives for this stand:**

##### **Silvicultural Prescription**

**Recommended silvicultural system:** Uneven-aged management, favoring red spruce and yellow birch. Target maximum diameter is 16 inches. The desired cutting cycle is 25 years.

**Details of the silvicultural prescription:** No activity for this planning period

##### **Planned Activities**

There are no activities for this stand.

### ***EXISTING CONDITIONS FOR '2'***

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**Land area:** Land area: 15 Acres

**Landuse history:**

**Forest Type:**

- Existing mixedwood
- Potential spruce-hardwood

**Successional trend:** This area includes the peak of Chases Mountain and is extremely ledgy and rocky, with little soil cover. Trees are stunted and will not reach commercial size.

**Forest health:**

**Site quality:** Site index is site 4.

**Approximate age:** **Size class:** Poles (5.5 - 11.5")

**Trees per acre:** **Mean Stand Diameter:**

**Basal Area (BA):** **Acceptable BA:**

**Growth Rate:** **Timber Quality:**

**Stocking:**

**Stand Volume:**

**Habitat and wildlife use:** Limited use by wildlife

**Recreational opportunities:** Good for hiking as destination point for trail system.

**Potential for timber production:** No timber potential

**Potential for other uses:**

**Water quality issues:** No water quality issues

**Important natural features:** Peak of Chases Mountain

***MANAGEMENT PLANS FOR '2'***

**Landowner's objectives for this stand:** Leave in natural state, although some vista clearing might be considered.

**Silvicultural Prescription**

**Recommended silvicultural system:**

**Details of the silvicultural prescription:** No activity for this planning period.

**Planned Activities**

There are no activities for this stand.

## ***EXISTING CONDITIONS FOR '3'***

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<b>Land area:</b>	Land area: 204 Acres	
<b>Landuse history:</b>	Portions of stand 3 were logged lightly in 1996 and 2001, but no major harvest has taken place for over 30 years.	
<b>Forest Type:</b>		
- Existing	Northern Hardwoods	
- Potential	Northern hardwood and mixedwood	
<b>Successional trend:</b>	This is a fairly mature northern hardwood stand that comprises approximately 50% of the property. Common species include red maple, sugar maple, white ash, yellow birch, white birch, black cherry, red oak and scattered softwoods such as red spruce and hemlock. Regeneration present is primarily softwood (spruce and hemlock), with lesser amounts of hardwood (maple, beech, and red oak).	
<b>Forest health:</b>	Overall stand health is good with normal amounts of beech bark disease present.	
<b>Site quality:</b>	Site index is site 1 and 2 for sugar maple. Site quality varies quite dramatically within this stand depending on terrain and soil depth. A series of bedrock controlled ridges run generally north to south. Growing conditions are rather good between the ridges and less so on top of the ridges. Complicating things somewhat are the ephemeral streams that are present between the ridges.	
<b>Approximate age:</b>	90	<b>Size class:</b> Medium Sawlogs (17.5 - 23.5")
<b>Trees per acre:</b>	225	<b>Mean Stand Diameter:</b> 8.4 in.
<b>Basal Area (BA):</b>	85	<b>Acceptable BA:</b> 72
<b>Growth Rate:</b>		<b>Timber Quality:</b> medium
<b>Stocking:</b>	Adequately stocked - between A and B-line on the northern hardwood stocking guide.	
<b>Stand Volume:</b>		
<b>Habitat and wildlife use:</b>	Good upland habitat with a variety of landform types including streams, ledges, rock outcrop.	
<b>Recreational opportunities:</b>	Good opportunities for most forms of extensive recreation including hiking, hunting and bird watching.	
<b>Potential for timber production:</b>	Fair to good with limiting factors being access, ephemeral stream locations and ruggedness of the terrain.	
<b>Potential for other uses:</b>		

**Water quality issues:** Streams and ephemeral streams will be a major concern when planning and conducting timber sales in this area.

**Important natural features:** A series north to south ledge rock outcrop formations and with ephemeral streams located between the ridges.

***MANAGEMENT PLANS FOR '3'***

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**Landowner's objectives for this stand:** Manage for multiple uses including water quality, timber, wildlife and extensive recreation.

**Silvicultural Prescription**

**Recommended silvicultural system:** Uneven-aged management, favoring sugar maple, white ash, yellow birch, beech and red spruce. Target maximum diameter is 24 inches. The desired cutting cycle is 22 years.

**Details of the silvicultural prescription:** Uneven-aged harvest using both individual tree and group selection. Incorporate recommendations from Vermont F&W and Vermont Audubon where appropriate.

**Planned Activities**

**2011:** Start preliminary work on trail system  
**Priority:** 1

**2012:** layout recommended timber sale  
**Priority:** 1

***EXISTING CONDITIONS FOR '4'***

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**Land area:** Land area: 8 Acres

**Landuse history:** No management or farming history

**Forest Type:**  
 - Existing mixedwood  
 - Potential mixedwood

**Successional trend:** This is a mixedwood stand that is primarily softwood dominated on the steepest portion of the stand towards the Middlesex/Waterbury town line and more hardwood dominated on the ridge top.

**Forest health:** good

**Site quality:** Site index is site III and IV for red spruce. Extreme steepness and shallow soils limit tree growth and harvesting possibilities.

**Approximate age:** **Size class:** Small Sawlogs (11.5 - 17.5")

**Trees per acre:** 215 **Mean Stand Diameter:** 8.5 in.

**Basal Area (BA):** 77 **Acceptable BA:** 57

<b>Growth Rate:</b>	<b>Timber Quality:</b> low
<b>Stocking:</b>	This stand is slightly understocked - lying just below the c-line on the mixedwood stocking guide
<b>Stand Volume:</b>	
<b>Habitat and wildlife use:</b>	Limited because of extreme steepness, the area might be used by raptors as a perch site.
<b>Recreational opportunities:</b>	Limited due to extreme steepness in most of the area, there would be bird watching and hiking opportunities on the ridge top
<b>Potential for timber production:</b>	Low due to steepness of terrain and shallow soils
<b>Potential for other uses:</b>	
<b>Water quality issues:</b>	The area serves as riparian protection for beaver ponds below
<b>Important natural features:</b>	The extremely steep rocky/ledgy cliffs that lie just east of the Waterbury/Middlesex town line and rise from a series of beaver ponds that was once a town road.

### ***MANAGEMENT PLANS FOR '4'***

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<b>Landowner's objectives for this stand:</b>	Most of the stand will be maintained in a natural condition, although there are limited management possibilities on the upper or eastern portion of the stand.
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#### **Silvicultural Prescription**

<b>Recommended silvicultural system:</b>	Uneven-aged management, favoring red spruce, hemlock, balsam fir, and white birch. Target maximum diameter is 20 inches. The desired cutting cycle is 25 years.
<b>Details of the silvicultural prescription:</b>	Conduct some light, selective cutting when stands 3 and 5 are being treated.

#### **Planned Activities**

There are no activities for this stand.

### ***EXISTING CONDITIONS FOR '5'***

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<b>Land area:</b>	Land area: 51 Acres
<b>Landuse history:</b>	Probably grew in from pasture, with relatively light cutting over the years
<b>Forest Type:</b>	
- Existing	mixedwood
- Potential	mixedwood

**Successional trend:** Uneven-aged mixedwood stand with predominate species included being red maple, beech, white birch, yellow birch, red spruce, sugar maple, white ash, white pine, hemlock, red oak aspen and Hophornbeam.

**Forest health:** Good - with no abnormal insect or disease conditions noted.

**Site quality:** Good site for growing mixedwood species - white pine does particularly well

**Approximate age:** **Size class:** Small Sawlogs (11.5 - 17.5")

**Trees per acre:** 230 **Mean Stand Diameter:** 8.6 in.

**Basal Area (BA):** 94 **Acceptable BA:** 75

**Growth Rate:** **Timber Quality:** medium

**Stocking:** Adequate - just below b-line on mixedwood guide and 1/2 way between a and b-lines on hardwood stocking guide

**Stand Volume:**

**Habitat and wildlife use:** Good habitat for upland species such as deer, bear, coyote, moose and song birds.

**Recreational opportunities:** Good opportunity for most extensive forms of recreation

**Potential for timber production:** A relatively good site for growing timber. Elevation is lower and ridge outcropping is less severe than in Stand 3.

**Potential for other uses:**

**Water quality issues:** At least 4 headwater streams exit the property through stand 5, and riparian buffers should be enhanced where possible.

**Important natural features:**

### ***MANAGEMENT PLANS FOR '5'***

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**Landowner's objectives for this stand:** Manage for multiple uses including water quality, timber, wildlife and recreation.

#### **Silvicultural Prescription**

**Recommended silvicultural system:** Uneven-aged management, favoring white pine, hemlock, red spruce, yellow birch, sugar maple and black cherry. The desired cutting cycle is 22 years.

**Details of the silvicultural prescription:** Uneven-aged harvest using individual tree and group selection methods. Maintain or increase softwood component to enhance species diversity. Incorporate recommendations from VT F&W and Vermont Audubon where appropriate.

**Planned Activities**

**Y3:** layout recommended timber sale

**Priority:** 1

***SUMMARY TABLES***

**Overview of Planned Activities**

**2010 – All areas -** Locate and mark property boundaries

Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
3		x	x							
5			x							

**Detailed plans by year**

**- 2011 -**

UNIT	PRIORITY	ACTIVITY
3	1	Start preliminary work on trail system

**- 2012 -**

UNIT	PRIORITY	ACTIVITY
3	1	layout recommended timber sale
5	1	layout recommended timber sale

**Comparison of management units on the property**

UNIT	ACRES	COVER TYPE	STAND DIAMETER	BASAL AREA	SILVICULTURAL SYSTEM
1	126	Northern hardwood with scattered softwood	7.3 in.	72	Uneven aged mgmt. Maximum diameter 16 inches. Cutting cycle of 25 years.
2	15	mixedwood			
3	204	Northern Hardwoods	8.4 in.	85	Uneven aged mgmt. Maximum diameter 24 inches. Cutting

					cycle of 22 years.
4	8	mixedwood	8.5 in.	77	Uneven aged mgmt. Maximum diameter 20 inches. Cutting cycle of 25 years.
5	51	mixedwood	8.6 in.	94	Uneven aged mgmt. Cutting cycle of 22 years.

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## 7.5. Resources

*Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*

by Elizabeth H. Thompson and Eric R. Sorenson

online at : [http://www.vtfishandwildlife.com/books.cfm?libbase\\_=Wetland,Woodland,Wildland](http://www.vtfishandwildlife.com/books.cfm?libbase_=Wetland,Woodland,Wildland)

Appalachian Mountain Club book *Complete Guide to Trail Building and Maintenance*

by Demrow and Salisbury

Audubon Vermont - Forest Bird Initiative - <http://vt.audubon.org/conservationNews.html>

Berlin, VT - Irish Hill Management Plan -

<http://www.berlinvt.org/irish%20hill%20plan%20final%20word%202007.pdf>

Marshfield, VT - Town Forest Management Plan -

<http://www.town.marshfield.vt.us/pdf%20files/Management%20Plan/Management%20Plan%20021610.pdf>

Northern Forest Alliance - VT Town Forest Stewardship Guide -

<http://www.northernforestalliance.org/pdfs/ForestTSGuide.indd.pdf>

Northern Forest Alliance - Vermont Town Forest Project -

<http://www.northernforestalliance.org/vermont-town-forest-project.html>

Northern Woodlands - <http://northernwoodlands.org/about/>

The Nature Conservancy Vermont Wise on Weeds -

<http://www.nature.org/wherewework/northamerica/states/vermont/volunteer/art21105.html>

Vermont Housing and Conservation Board - <http://www.vhcb.org/>

Vermont Family Forests - <http://www.familyforests.org/>

VT Town Forest Health Check - <http://www.familyforests.com/public-education/TFHC.htm>

Vermont Land Trust - <http://www.vlt.org/>

Vermont Natural Resources Council - <http://www.vnrc.org/article/view/20883/1/2720/>

VT State Agency of Natural Resources:

VT Fish and Wildlife Department:

Hunting and Trapping Calendar -

[http://www.vtfishandwildlife.com/Calendar\\_of\\_events.cfm?eventcat=hunt&datange=future](http://www.vtfishandwildlife.com/Calendar_of_events.cfm?eventcat=hunt&datange=future)

Wildlife Management Areas (WMA) - [http://www.vtfishandwildlife.com/wma\\_maps.cfm](http://www.vtfishandwildlife.com/wma_maps.cfm)  
Middlesex WMA -

<http://www.vtfishandwildlife.com/library/maps/Wildlife%20Management%20Areas/Barre%20District/Middlesex%20WMA.pdf>

VT Department of Forests, Parks and Recreation:

Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont - <http://www.anr.state.vt.us/cleanandclear/forestry.htm> and <http://www.vtfpr.org/watershed/documents/Amp2006.pdf>

Mt. Mansfield State Forest Long-Range Management Plan -

<http://www.vtfpr.org/lands/mansfield/mansfieldplan.pdf>

Timber Harvesting in Vermont - Summary of Rules and Regulations -

[http://www.vtfpr.org/regulate/documents/Timber\\_Harvest09\\_web.pdf](http://www.vtfpr.org/regulate/documents/Timber_Harvest09_web.pdf)

Warren, VT - Eaton Town Forest Management Plan -

[http://www.warrenvt.org/depts/Conserv\\_Com/Plan/Eaton\\_plan\\_draft\\_11-11-08.pdf](http://www.warrenvt.org/depts/Conserv_Com/Plan/Eaton_plan_draft_11-11-08.pdf)